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(54) SLOW ELECTRON BEAM-EXCITED PHOSPHOR AND ITS PRODUCTION

(57)Abstract:

PURPOSE: To obtain a phosphor of an improved luminance by coating the surface of a phosphor with particles of a specified conductivity imparting substance.

CONSTITUTION: In and Ti are coprecipitated in the form of a carbonate, oxalate, succinate or hydroxide, and the obtained precipitate is burned at 600-1800°C for 1-12hr to obtain particles (b) of a conductivity imparting substance having a particle diameter of 0.01-5 μm and comprising an indium titanate compound of the formula $In_{2-x}Ti_xM_yO_5$ (wherein $0<x\leq4$; $0\leq y\leq2$; and M is Sn, Sb, W, Zn, Cd, Nb or K). The surface of a particle of a phosphor (a) selected from a sulfide phosphor (i) wherein the matrix is ZnS, (ZnCd)S or CdS, the activator is Ag, Zn, Cu, Au or Mn, the first coactivator is Cl, Br, I, F or Al, and the second coactivator is Na, K, Li or the like, an oxide, aluminate or silicate phosphor (ii) wherein the matrix is ZnO, SnO2 or the like, and the activator is Zn, Eu or the like, an oxysulfide phosphor (iii) wherein the matrix is Y2O2S, Gd2O2S or the like, and the activator is Eu, Tb or the like, and a phosphate phosphor (iv) wherein the matrix is LaPO4 or the like, and the activator is Mn, Ce or Tb is coated with 0.1-25wt.% component (b).